Drinking Water Well Construction Form

INSTRUCTIONS FOR COMPLETING THIS COMBINED FORM

NOTICE: Section NR 812.22, Wis. Adm. Code, requires that all new or reconstructed wells be tested for bacteriological safety and a well construction report be completed by the well constructor. Copies of the test results and the well construction report shall be submitted to the Department and a copy provided to the well owner within 30 days after water testing and well construction.

This form must be completed for every well constructed (drilled or driven point). Type or print very hard, and legibly, with a black ink ballpoint pen on a firm surface. Also, please use decimals instead of fractions. The following instructions are to help you complete the form.

Completion of this form is mandatory. This form is authorized by ss. 280.1 I (1) and 281.19(l), Wis. Stats., and chs. NR 812 and NR 146, Wis. Adm. Code. Penalties for failure of the well constructor to submit a completed form to the Department is punishable by a forfeiture of not less than $10 or more than $5,000.00; or by fines of not less than $10 or more than $100 or imprisonment not less than 30 days or both; or license suspension or revocation. Each day of continued violation is a separate offense (ss. 280.97 and 299.97, Wis. Stats.) Personally identifiable information on this form will be used for sending job-related materials, well labels and directing the water supply program. The Department plans to make the information on this form available electronically on the Internet.

FIRST WATER QUALITY TEST

Keep the water quality test slip attached until you have filled out the requested information above the "STOP" line. Then remove the slip and complete the unshaded areas. In counties where a well permit is required, be sure to enter the County Well Permit number. The test explanations and sampling directions are on the back of the water quality test slip. **DO NOT use this slip for follow-up water quality testing. Request an individual test slip and bottle from any certified water bacti lab that will report the test results to the department.**

WELL CONSTRUCTION REPORT

Property Owner: Enter the last name, a coma, followed by the first name. If there is no person and it is a business or facility, enter the full business or facility name.

ITEM 1. Well Location: Include street addresses and, if the property is in a subdivision, the lot and block numbers. The location information can be obtained from a plat book, GPS unit, topographic quadrangle sheet, or local government official. Enter at least one of the two following types of location coordinates: Public Land Survey coordinate (Township, Range, Range Direction, Section, Quarter Section, and Quarter Quarter Section) **OR** a Latitude and Longitude (Degrees, Minutes, and Seconds) coordinate. If Latitude and Longitude are entered, the Lat/Long Method must be entered. This field represents the method which the coordinate was collected (see description of Lat/Long Method field on the backside).

ITEM 2. Well Type, Reason for Construction: Replacement means replacement of an existing well; Reconstructed means modification of an existing well by deepening, lining, underreaming, hydrofacturing, blasting or screen replacement. Some reasons for well construction include new home, gasoline or bacteriological contamination in old well, old well went dry, sand pumping well and plugged screen.

ITEM 3. Enter the number of homes the well serves and/or list any additional facilities the well serves. A high capacity well is one in which the pumping capacity of the well is equal to or greater than 70 gallons per minute. A high capacity property is one in which the total pumping capacity of all wells on the property is equal to or greater than 70 gallons per minute.

ITEM 4. Mark if the well is located upslope or sideslope and not downslope from any contamination sources, including those on neighboring properties. Explain on the reverse if the well is downslope. Indicate if the well is in a floodplain. Also, indicate the distances in feet, between the well and nearest contamination sources on the property and any adjacent neighboring properties. See Table A in the Private Well Code (NR 812) for a list of contamination sources and the minimum location distances. Check DNR landfill list for information on landfills in the area near the well.

ITEM 5. If construction method was used other than those listed, explain method on back of form.

ITEM 6. Enter the diameter of the casing, liner and/or screen. Describe the material, weight specifications, list the manufacturer, method of assembly and enter the depth information. Describe the screen type, material, slot size and depth information, if a screen is installed.

ITEM 9. Static Water Level: Report the depth to water below ground surface, as measured in feet. For flowing wells, static water level is measured in feet of head above ground surface.

ITEM 11. Indicate height of casing above the ground. Indicate if the well was developed (pumped, bailed or surged) to remove sand and other particles, and disinfected with a mixture of bleach and water. The well must also be covered with an approved vermin proof cap sealed at the top to prevent entry of contaminants.

ITEM 12. All unused, noncomplying or unsafe wells must be properly filled to protect drinking water and groundwater quality. Cement grout, concrete, or bentonite chips are allowed as fill material although chipped bentonite is allowed for wells of certain depths and diameters. For more information on well abandonment, see publication DG-016 98rev, "Well Abandonment." Please indicate the status of the old well and whether or not it was properly abandoned and filled.

ITEM 13. Signature: Sign your name and the date in the well constructor box.

FOR DRIVEN POINT WELLS: Complete items 1, 2, 3, 4, 5, 6, 9, 11, 12 and 13 on the form. For more information refer to the brochure entitled "You and Your Well" or contact your DNR region office.

Send the copies of the well construction reports to the party indicated on the bottom of each copy.

Selected Data Field Descriptions Listed by Form Section.

Item 1:
Lat/Long Method: This field lists standard horizontal data collection method codes for data collected in latitude and longitude coordinates. This field must be entered if a latitude/longitude coordinate is entered. The field only applies to data collected in latitude/longitude coordinates. These codes were created by the Wisconsin DNR.

GPS006 - Mapping or recreational grade GPS receiver with no differential correction and selective availability off
GPS007 - Mapping or recreational grade GPS receiver with no differential correction and selective availability on
GPS008 - GPS receiver grade and/or differential correction procedures unknown
LOR001 - Loran C radio receiver
MLT001 - Multiple locational data collection methods used for one feature
OTH001 - Other locational data collection method
PAR001 - Interpreted from parcel description
SCR001 - Digitized on screen: feature published/visible on digital orthophoto
SCR002 - Digitized on screen: feature interpreted from digital orthophoto
SCR003 - Digitized on screen: feature published/visible on USGS 7.5-minute digital raster graphic
SCR004 - Digitized on screen: feature interpreted from USGS 7.5-minute digital raster graphic
UNK001 - Unknown/guess
VRT001 - Topographic map interpolation: feature altitude or depth published/visible on source map
VRT002 - Topographic map interpolation: feature altitude or depth interpolated from source map

This list is not a full selection of available Lat/Long collection method codes. The complete listing is available in the DNR Locational Data Standards document.

Item 8:
Geology Codes: These codes represent a method of coding color, texture, primary and secondary lithology for the borehole's geologic section. The fields are 1 character in size with each position representing a corresponding column. **A selection must be made for Primary Lithology.** Two examples are: a red "rotten" granite with no secondary lithology would be RDQ-; a tan sandy glacial outwash would be T-OS (- used to represent a blank column).

Color	Texture	Primary Lithology	Secondary Lithology
T = Tan/Brown	F = Fractured	S = Sand	S = Sandy
K = Black	B = Broken	M = Silt	M = Silty
U = Blue	C = Cavernous	C = Clay	C = Clayey
G = Gray	D = Decomposed/ Weathered	G = Gravel/Cobbles/ Boulders/Stones	G = w/Gravel/Cobbles/ Boulders/Stones
O = Orange	H = Hard/Firm	P = Hardpan	P = w/Hardpan
R = Red	S = Soft/Loose	L = Limestone/Dolomite	L = Limey or Dolomitic
P = Pink			

Y = Yellow	N = Fine	H = Shale	H = Shaley
E = Green	M = Medium	N = Sandstone	N = w/Sandstone
I = White	A = Coarse	J = Crystalline	J = w/Crystalline
	L = Fossiliferous	Q = Granite	Q = w/Granite
	X = Lensed/Streaked/ Layered	B = Basalt or Trap Rock	B = Basalt or Trap Rock
		A = Conglomerate	A = w/Conglomerate
	Q = Caving	T = Till	D = w/Glacial Material
	V = Non-Caving	F = Fill	T = w/Till
	W = Water Bearing	V = Alluvium	F = w/Fill
	J = Iron	U = Mud or Muck	V = Alluvial
	E = Clean	I = Soil-Organic	U = Muddy or Mucky
		O = Outwash	I = w/Soil-Organic
		X = Sand & Clay	O = w/Outwash
		Y = Sand & Gravel	R = w/Chert
		Z = Clay & Gravel	K = w/Broken Rock
		E = Peat	W = w/wood

REMOVE INSTRUCTIONS BEFORE COMPLETING FORM.

Dear Well Owner:

Congratulations on your new well! This is your copy of the well construction report and is an important record for your safekeeping.

The report has a pre-printed WISCONSIN UNIQUE WELL NUMBER. This is the lifetime identification number for your well. The water quality, geologic and well construction information on your well will be compiled for future use in analyzing any water quality changes in your well.

A bacteriological sample of your well water should have been taken at the time of construction and you should have received a copy of the result. If not, contact your well constructor.

Your well should be able to produce good quality drinking water for decades to come. You can help protect the quality of your drinking water with the following measures:

* Regularly check to make sure the well cap or seal and electrical connections are in place and tightly secured;
* Be sure surface water drainage is away from the well; and
* Avoid the use or storage of gasoline and lawn or agricultural chemicals near the well.

For further information, request a copy of the brochure, "You and Your Well."

Public health officers strongly advise sampling your water for bacteriological safety annually or after modifying the well in any way. The well water should also be tested when any change in taste, odor, color or appearance is noticed.

BACTERIOLOGY

The presence of coliform bacteria in well water shows that unfiltered, or poorly filtered surface water may have found its way into the well. This indicates that the water is potentially dangerous. You should test for bacteria annually or any time the well water changes in taste, odor, color, or appearance.

NITRATE

High levels of nitrate in water present a potential health problem for infants less than six months of age. Nitrate is converted to nitrite in the stomach of small infants. The nitrite then interferes with the blood's ability to carry oxygen. If the concentration of nitrate in water is sufficiently high, symptoms of suffocation or "blue baby syndrome" can occur. This effect is not seen in persons over six months of age. This test is recommended for all wells used for drinking water by children less than six months of age.

FLUORIDE

Knowledge of the level of naturally occurring fluoride will be useful to your dentist in prescribing a fluoride treatment program for children. This test is recommended only if your dentist has requested it.

ATRAZINE

Atrazine is the most commonly used pesticide in Wisconsin. If present in amounts above the advisory level in drinking water, atrazine may pose a cancer risk. Testing for atrazine is especially recommended for wells located in non-clay soils in corn producing areas. The Wisconsin State Laboratory of Hygiene can test your drinking water supply for the presence of this pesticide. You can request an Atrazine Test Kit by calling 800-442-4618.

Water samples can be tested at private laboratories, local public health department labs, or the State Laboratory of Hygiene. Contact any of these laboratories for a sample bottle, instructions and the charge per test.

REMEMBER: Be sure to include your well's WISCONSIN UNIQUE WELL NUMBER on all future water quality tests.

If you have questions or problems contact your well constructor, pump installer, local health department or the Department of Natural Resources.

First Water Quality Test Form (3300-77)

All new, replacement, or reconstructed wells must be tested for bacteriological safety.

Fill out the form down to the shaded areas. You may use the Other Tests or Comments shaded area if you need to. Fill in all requested information.

When completed, print this form out and send it to a certified laboratory along with your sample.

You must collect a bacteriological sample for this well. A nitrate, fluoride, atrazine or other tests are optional, although the Wisconsin Groundwater Coordinating Council has endorsed a recommendation to take a nitrate sample in addition to bacteria.

Collect your sample just prior to mailing or bringing it to the laboratory. Bacteriological samples have shorter holding time requirements which should not be exceeded.

Form Fields Help:

Property Owner: Enter the last name, a coma, followed by the first name. If there is no person and it is a business or facility, enter the full business or facility name.

State of Wisconsin

Department of Natural Resources

INSTRUCTIONS
Monitoring Well Construction Form 4400-113A

General Instructions: Fill out both a monitoring well construction form (4400-113A) and a monitoring well development form (4400-113B) for each well installed. Sign each form. Please note that these forms are subject to change. (Personally identifiable information on these forms is not intended to be used for any other purpose.)

Routing: Return these forms to the project manager or plan reviewer for the DNR program who required the well installation. If the project manager/plan reviewer is in the Regional Office, send the original forms to the Regional Office and a copy to the Central Office in Madison. If the project manager/plan reviewer is in the Central Office, send the original forms there and a copy to the Regional Office. If your project does not have a project manager or plan reviewer or you don't know who it is, send the forms to the appropriate program in the Central Office. The addresses of the DNR offices are provided on the attached map.

Check the appropriate routing box at the top of the forms to assure proper routing once the forms reach DNR.

Time-saving tip: When filling out many forms at once, you can save time by using a photocopier. Fill out one form (the "original") with any information that is the same for all wells, such as facility name, section location, grid origin location, drilling method and well casing type. Photocopy both sides of the "original", making as many copies as there are wells. On the separate copies, fill in the details that are unique for each well.

TOP LEFT

Facility/Project Name: Fill in the name of landfill, wastewater treatment facility, surface impoundment, spill or project.

Facility License, Permit, or Monitoring Number: Fill in number assigned to facility by the Department. If unknown, leave blank.

Facility ID: Fill in the nine digit Facility ID (FID) assigned to the site.

Type of Well: Record the type of well code (number/initials) from the following list:

11/mw Water table observation well (monitoring well screen intersecting the water table) (non Subtitle D well)
12/pz Piezometer (monitoring well with screen sealed below the water table) (non Subtitle D well)
17/gc Gradient control
18/at Aquifer test
24/lh Leachate head well
26/ew Groundwater extraction well
27/he Horizontal groundwater extraction well
28/hw Horizontal monitoring well
29/ha Horizontal vapor extraction well
51/gp Gas probe
53/ge Gas extraction well
57/sv Soil venting wells (includes both soil vapor extraction and bioventing, includes both extraction and unsaturated zone gas phase injection wells installed in soil or fill, but not refuse
61/ij Injection well (injection of liquids not gases)
62/as In situ air sparging well (injection well to inject gases into the aquifer
63/uv Unterdruck Verdampfer Brunnen (UVB) wells (sparging wells where the gases remain in the well and are not injected into the aquifer)
64/le Groundwater and light non-aqueous phase liquid (LNAPL) extraction wells
65/de Groundwater and dense non-aqueous phase liquid (DNAPL) extraction wells
66/ve Vacuum enhanced groundwater extraction wells

67/vi Vacuum enhanced groundwater and LNAPL extraction wells
68/vd Vacuum enhanced groundwater and DNAPL extraction wells
71/dw Subtitle D water table observation well (see 11/mw above)
72/dp Subtitle D piezometer (see 12/pz above)
99/Ot Other

Distance From Waste/Source: Enter distance in feet from the monitoring well to the edge of a facility waste storage or discharge structure, e.g., from the edge of a wastewater lagoon or the approved waste fill boundary for a landfill. For a contaminant source which is not a facility, e.g., a spill, enter the distance the well is from the contaminant source.

Enf. Stds. Apply: Check this box only if enforcement standards apply at this well. Enforcement standards apply at any well beyond the Design Management Zone or the property boundary of the facility or at a water supply well. For spills, enforcement standards apply at every point at which groundwater is monitored. (For more information, see s. NR 140.22, Wis. Adm. Code.)

TOP CENTER

Local Grid Location: The location of the well to the nearest foot, in relation to the grid origin established for the site. If the exact location of the well is given in State Plane Coordinates, then leave these fields blank.

Local Grid Origin or Well Location: Check the appropriate box behind the Local Grid Origin or the Well Location text. Locate the grid origin at a permanent feature near the waste or source of contamination. Give the location in State Plane Coordinates or Latitude and Longitude in degrees, minutes and seconds (using 1927 North American Datum). If State Plane Coordinates are used, circle the appropriate letter for south, central or north zone. Alternately, an acceptable method for providing this information without surveying is to locate the Grid Origin on a USGS 7.5 minute quadrangle map. The Location of the Grid Origin can then be interpolated (estimated) using standard cartographic techniques. If the Grid Origin location is estimated, check the estimated box.

The Well Location can be determined directly by surveying or by Global Positioning System (GPS) (with processing to be accurate within 1 foot and reported with precision to hundredths of a second). If the exact location of the well is given in State Plane Coordinates, then leave the Local Grid Location fields blank.

Section Location of Waste/Source: Fill in the quarter quarter and quarter section, section, township, range and range direction of the waste or source.

Location of Well Relative to Waste/Source: Check the box which describes the location of the well in the groundwater flow system relative to the disposal site, spill, etc. If groundwater flow directions are unknown, check "not known."

Gov. Lot Number: Provide the government lot number for the property if applicable. (Government lot numbers are the legal description of a tract of land adjacent to a lake or stream where a proper quarter or quarter quarter section corner could not be established.)

TOP RIGHT

Well Name: Fill in common well name, such as B-ll, OW-13A, or MW-5R. (Use the suffix "R" for a replacement well.)

Wis. Unique Well Number: Fill in the 2 alphabetic and 3 numeric Wisconsin Unique Well Number (WUWN) on this form. In addition, attach the WUWN tag to the inside of the protective cover pipe and record that number on the Soil Boring Log Information form 4400-122 and Monitoring Well Development form 4400-113B. WUWN tags are available from the DNR Central or Regional Offices.

DNR Well ID Number: The 3 digit number assigned to the well by the Department.

Date Well Installed: List Month/Day/Year (mm/dd/yyyy) the well was installed.

Well Installed By: Fill in name (first and last) and firm of the person who supervised the drilling. The person must be a hydrogeologist, a drilling crew chief or experienced engineering technician.

LEFT SIDE

Numerical Specifications: Fill in data for letters A through N which refer to design elements on the figure on the form. Letters A, B and C must be reported as elevations in feet above mean sea level (MSL), surveyed to the nearest 0.01 foot. Letters D through K may be either elevation above MSL or depth below land surface, accurate to the nearest 0.1 foot.

A. **Protective pipe, top elevation**. With cap off. Referenced to Mean Sea Level (MSL).

B. **Well casing, top elevation**. With cap off. Referenced to MSL.

C. **Land surface elevation**. Referenced to MSL.

D. **Surface seal, bottom**. Fill in elevation, MSL or depth below land surface.

E. **Bentonite seal, top**. MSL or depth below land surface. (See NR 141.13(1) to determine if this seal is required)

F. **Fine sand, top**. MSL or depth below land surface. Cross out if not installed.

G. **Filter pack, top**. MSL or depth below land surface.

H. **Screen joint, top**. MSL or depth below land surface. (Top of the entire screen section, NOT the top slot)

L. **Well bottom**. MSL or depth below land surface.

J. **Filter pack, bottom**. MSL or depth below land surface.

K. **Borehole, bottom**. MSL or depth below land surface.

L. **Borehole, diameter**: Diameter to nearest 0.1 inch.

M. **O.D. well casing**: Outside diameter to nearest 0.01 inch.

N. **I.D. well casing**: Inside diameter to nearest 0.01 inch.

LEFT CENTER INSERT (BOX)

12. **USCS classification of soil near screen**: Check boxes for all soil types (or bedrock) found at the depths spanned by the well screen, using the Unified Soil Classification System symbols. Refer to the native soil near the screen, not to the filter pack material.

13. **Sieve analysis performed?**: Check box. A sieve analysis for soil near the screen is required for all wells.

14. **Drilling method used**: Choose from among the choices on the form or check "Other" and write in one of the choices below:

Reverse rotary Solid stem auger Cable tool Driven point

Vibratory Casing hammer Wash boring

15. **Drilling fluid used**: Check appropriate box or boxes.

16. **Drilling additives used**: Check box. If yes, describe.

17. **Source of water**: Cite source(s) of any water used to drill the well OR to hydrate dry bentonite OR to mix annular space sealant. Cite exact source so that a sample of the water can be obtained later, if necessary. If the well is at a solid waste facility, attach an analysis of the water according to s. NR 507.06(1), Wis. Adm. Code.

RIGHT SIDE

1. **Cap and Lock**: Check box.

2. **Protective pipe**: Provide the information below.

   a. **Inside diameter**: Give to nearest 0.1 inch.
   b. **Length**: Give to nearest 0.1 foot
   c. **Material**: Check box. If "Other", describe.
   d. **Additional protection?**: Check box. If 'Yes', describe.

3. **Surface seal**: Check box for the material used to prevent surface water from entering the borehole. If "Other," describe.

4. **Material between well casing and protective pipe**: Check box. If "Other", describe.

5. **Annular space seal**: Check boxes for both materials used and how installed, and fill in volume used.

   Material: If dry bentonite, list source of water used for hydration on line #17. For wells installed at a solid waste site, attach an analysis of water (see s. NR 507.06(1), Wis. Adm. Code.) For other choices, fill in pounds per gallon mud weight or percent bentonite as appropriate.

   e. **Volume**: Fill in volume used in cubic feet.
   f. **How installed**: Check box for how the annular space seal was installed. If dropped from the land surface, check "Gravity."

6. **Bentonite seal**: If bentonite pellets were used, also check the pellet diameter. If material installed was the same as the annular space seal, or if no filter pack seal was installed, write "none."

7. **Fine sand material**: Fine sand is used to prevent migration of annular space seal material into the filter pack.
   a. Indicate manufacturer, product name, and mesh size.
   b. Indicate volume added.

8. **Filter pack material**: General description of filter pack material, e.g., "430 grit sand," and name of filter pack manufacturer, product name or number, and volume added. Attach grain size analysis of filter pack and state quantity used.

9. **Well casing**: Check box for PVC type. If "Other", describe. Examples of "Other" include stainless steel, steel, and Teflon ©.

10. **Screen material**: If same as well casing, write "same."

    a. **Screen type**: Check box. If "Other", describe the design.

b. **Manufacturer**: List name of manufacturer.
c. **Slot size**: Give width of slot in thousandths (0.001) of an inch.
d. **Slotted length**: Give distance from top slot to bottom slot to nearest 0.1 foot.

11. **Backfill material**: Check "None" or, if "Other", describe any backfill installed below the filter pack.

FAR BOTTOM

"I hereby certify that the information on this form is true and correct to the best of my knowledge.": Sign the form and indicate name of firm.

MONITORING WELL DEVELOPMENT FORM 4400-113B

TOP TWO LINES

Facility/Project Name: Fill in the name of landfill, wastewater treatment facility, surface impoundment, spill or project.

Facility License Permit, or Monitoring Number: Enter number assigned to facility by the DNR. If unknown, leave blank.

County Name: Fill in the name of the county in which the well is installed.

County Code: Fill in the two digit county code number.

1 . Adams	16. Douglas	31. Kewaunee	46. Ozaukee	61. Taylor
2. Ashland	17. Dunn	32. La Crosse	47. Pepin	62. Trempealeau
3. Barron	18. Eau Claire	33. Lafayette	48. Pierce	63. Vernon
4. Bayfield	19. Florence	34. Langlade	49. Polk	64. Vilas
5. Brown	20. Fond Du Lac	35. Lincoln	50. Portage	65. Walworth
6. Buffalo	21. Forest	36. Manitowoc	51. Price	66. Washburn
7. Burnett	22. Grant	37. Marathon	52. Racine	67. Washington
8. Calumet	23. Green	38. Marinette	53. Richland	68. Waukesha
9. Chippewa	24. Green Lake	39. Marquette	54. Rock	69. Waupaca
10. Clark	25. Iowa	40. Menominee	55. Rusk	70. Waushara
11. Columbia	26. Iron	41. Mlwaukee	56. St. Croix	71. Winnebago
12. Crawford	27. Jackson	42. Monroe	57. Sauk	72. Wood
13. Dane	28 Jefferson	43. Oconto	58. Sawyer	
14. Dodge	29. Juneau	44. Oneida	59. Shawano	
15. Door	30. Kenosha	45. Outagamie	60. Sheboygan	

Well Name: Fill in common well name, such as P-11, OW-13A, or MW-5R. (Use the suffix "R" for a replacement well.)

Wis. Unique Well Number: Record the Wisconsin Unique Well Number assigned to the well.

DNR Well ID Number: The 3 digit number assigned to the well by the Department.

LEFT COLUMN

1. **Can this well be purged dry?** Check whether well can or cannot be purged dry (all water removed).

2. **Well development method**: Check appropriate box. If "Other", describe. Note that a well shall be surged and purged for a minimum of 30 minutes.

3. **Time spent developing well**: In minutes.

4. **Depth of well**: In tenths (0.1) of feet, from top of well casing.

5. **Inside diameter of well**: In hundredths (0.01) of inches.

6. **Volume of water in filter pack and well casing**: In tenths (0.1) of gallons.

7. **Volume of water removed from well**: In tenths (0.1) of gallons.

8. **Volume of water added, if any**: In tenths (0.1) of gallons.

9. **Source of water added**: Cite exact source so that a sample of the water can be obtained later, if necessary.

10. **Analysis performed on water added?** Check appropriate box. If well is installed at a solid waste facility, attach analysis of water according to s. NR 507.06(1), Wis. Adm. Code.

RIGHT COLUMN

11. **Depth to water**:

    a. Enter distance from top of well casing to water level in well, in hundredths (0.01) of a foot, both before and after development.

    b. **Date**: Enter month/day/year (mm/dd/yyyy) development began and ended.

    c. **Time**: Enter according to a twelve hour clock the time development began and ended.

12. **Sediment in well bottom**: Compute to tenths (0.1) of inches, both before and after development.

13. **Water clarity**: Check box and describe.

14. **Total suspended solids**: Total Suspended Solids, as determined by a certified or registered analytical laboratory. Required only for wells near solid waste facilities when drilling fluids were used.

15. **COD**: Chemical oxygen demand, as determined by a certified or registered analytical laboratory. Required only for wells near solid waste facilities when drilling fluids were used.

16. **Well developed by**: Enter the name (first and last) and firm of the person who supervised the development This person must be a hydrogeologist, the drilling crew chief, or an experienced engineering technician.

BOTTOM SECTION

17. **Additional comments on development**: Describe any of the above in more detail or add information such as the relative recovery rates of wells or the amount of drilling fluid lost to the formation and the amount of water removed to account for lost drilling fluid. For example, if 150 gallons of drilling water were, lost, you should remove the volume of water in the filter pack and well casing plus 150 gallons as part of development.

Name and Address of Facility/Owner/Responsible Party Contact: Enter a contact name (first and last), or a firm name or facility name, street address, city, state, and zip code of the facility or site.

Signature, Print Name, and Firm: Signature and printed name of the person filling out the form and name of firm for which the person works.

REASONS FOR WELL/DRELLHOLE/BOREHOLE ABANDONMENT

Wis. Adm. Code (NR 811, NR 812, and NR 141) requires well owners to permanently abandon unused wells/drillholes/boreholes on their property. The reasons for this requirement are:

- To prevent contamination from entering the well/drillhole/borehole at the surface or through corroded well casings and moving downward to an aquifer used by other wells, and

- To prevent vertical movement of water between different geologic formations of differing water quality.

Most licensed well drillers and pump installers have the equipment, knowledge and experience needed to permanently abandon wells/drillholes/boreholes. We recommend that these licensed contractors be hired to do this work.

PROCEDURE

1. Remove any pump, pump piping, debris or other obstacles that could interfere with the sealing operation. In most situations the well casing should be left in place. When the casing is removed it should be pulled during the abandonment process so the drillhole does not collapse.

2. The sealing material must be placed with a conductor (tremie) pipe either by pumping or by gravity, (except when approved chipped bentonite is used according to Department instructions).

3. The bottom end of the conductor pipe must initially reach the bottom of the well and must be kept submerged in the sealing material as it is placed.

4. Unconsolidated formation wells should be sealed with the materials listed in item (6) on the form. When clay or sodium bentonite slurry is used to fill wells, the top 5 feet must be sealed with neat cement grout, concrete grout, concrete, or bentonite chips. Bedrock formation wells should be filled with neat cement grout, concrete grout or concrete. Monitoring wells must be filled with the materials specified by NR 141, Wis. Adm. Code.

5. Fill the entire well column from the bottom to the top with the required sealing material.

6. Any standing water in the hole will be forced out by the concrete or cement grout (it is more dense) resulting in an entire column of cement to seal the well. The sealing material must flow at the surface with the same consistency as it is being pumped in.

7. The casing may be cut off several feet below the ground surface.

8. To abandon flowing wells, the flow must be stopped or greatly reduced. This can be accomplished by extending the well casing to an elevation higher than the artesian head, or inserting a seal or packer in the casing. Once the flow has been stopped or reduced, the well can be abandoned the same as other wells.

9. For a municipal well, information regarding drillhole diameter and depths and geologic formations should be submitted on a separate sheet.

10. For use of alternative methods and materials, especially for deep, multi-formation wells contact DNR.

TEMPORARY ABANDONMENT

- A well may be temporarily abandoned if it is planned to place the well back in service within a time specified by administrative rule.

- Temporary abandonment is accomplished by threading or welding a watertight cover to the casing or by filling the well with a clean clay slurry and then placing a cover over the well.

- If the well is not placed back into service, it should be permanently abandoned unless a written extension is granted by DNR.

REPORT TO DNR

The Well/Drillhole/Borehole Abandonment Form 3300-5B, on the front, must be completed by the owner (or agent) and submitted to the appropriate DNR regional office or delegated county office within 30 days.

This form is authorized by chapters 280, 281, 283, and 299, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10.00 nor more than $5,000.00 for each violation. Fined not less than $10.00 or more than $100.00 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss. 280.97 and 299.97, Wis. Stats. Personally identifiable information on this form is not intended to be used for any other purpose.

State of Wisconsin
Department of Natural Resources

Instructions
Soil Boring Log Information Forms
Form 4400-122, Form 4400-l22A

General Instructions:

Fill out a Soil Boring Log Information Form for every boring drilled. Be sure to indicate the page number and boring number in the blanks at the top of each page. All applicable portions of the Soil Boring Log Information Form must be properly completed. The form must be signed. Form 4400-122A must only be used as an attachment to form 4400-122.

Routing:

Return this form to the project manager or plan reviewer for the Department program that required the boring. If the project manager/plan reviewer is in a Regional Office, send the original to the Regional Office and a copy to the Central Office in Madison. If the project manager/plan reviewer is in the Central Office, send the original form there and a copy to the Regional Office. If your project does not have a project manager or plan reviewer or you do not know who it is, send the form to the appropriate program in the Central Office. Check the appropriate box at the top of the form to assure proper routing once the form reaches the Department.

Facility/Project Name: List the name of the landfill, wastewater treatment facility, surface impoundment, spill or project.

License/Permit/Monitoring Number: The number assigned by the Department to the facility where the boring was drilled. If unknown, leave blank.

Boring Number: The site boring number or name (e.g., B-1).

Boring Drilled By: The name (first and last) of the drilling crew chief and the drilling firm name.

Date Drilling Started: The date the boring was started in month/day/year (mm/dd/yyyy) format.

Date Drilling Completed: The date the boring was completed in month/day/year (mm/dd/yyyy) format.

Drilling Method: List drilling method used: solid stem auger, hollow stem auger, rotary (air or mud), reverse rotary, cable tool, wash boring, vibratory, etc.

Wisconsin Unique Well Number: If a well is to be set in the boring, fill in the 2 alphabetic 3 numeric Wisconsin Unique Well Number (WUWN) on this form. In addition, attach a WUWN tag to the inside of the protective cover pipe and record that number on the Monitoring Well Construction Form 4400-113A and Monitoring Well Development Form 4400-113B. WUWN tags are available from the DNR Central or Regional Offices.

DNR Well ID Number: The 3 digit number assigned to the well by the Department.

Well Name: If a well is constructed, fill in common well name, such as B-ll, OW-13A, or MW-5R. (Use the suffix "R" for a replacement well.)

Final Static Water Level: The static water level in the borehole in tenths (0.1) of feet above mean sea level prior to abandonment or well construction.

Surface Elevation: The surface elevation of the ground surface at the borehole in tenths (0.1) of feet above mean sea level referenced to the closest USGS benchmark.

Borehole Diameter: The diameter of the borehole in tenths (0.1) of inches.

Local Grid Origin or Boring Location: Check the appropriate box behind the Local Grid Origin or the Boring Location text. Locate the grid origin at a permanent feature near the waste or source of contamination. Give the location in State Plane Coordinates or Latitude and Longitude in degrees, minutes and seconds (using 1927 North American Datum). If State Plane Coordinates are used, circle the appropriate letter for south, central, or north zone. Alternately, an acceptable method for providing this information without surveying is to locate the Grid Origin on a USGS 7.5 minute quadrangle map. The Location of the Grid Origin can then be interpolated (estimated) using standard cartographic techniques. If the Grid Origin location is estimated, check the estimated box.

The boring location can be determined by surveying or by Global Positioning System (GPS) (with processing to be accurate within 1 foot and reported with precision to hundredths of a second). If the exact location or the boring is given in State Plane Coordinates, then leave the Local Grid Location fields blank.

Section Location of Waste/Source: Enter the quarter quarter section, quarter section, section, township, range and range direction.

Local Grid Location: The location of the boring to the nearest foot, in relation to the grid origin established for the site. If the exact location or the boring is given in State Plane Coordinates, then leave these fields blank.

Facility ID: Fill in the Facility ID (FID) assigned to the site.

County: The county in which the boring is located.

County Code: The two-digit Department county code. (The code is based alphabetically with Adams County 01 and Wood County 72 and can be found on the map included with the Monitoring Well Construction form instructions.)

Civil Town/City/or Village: The municipality in which the boring is located.

Sample Number: The number used to identify the sample. Indicate the type of sampling apparatus used (i.e. split spoon/ss, Shelby tube/st, grab/gs, piston sampler/ps, core/cs, cuttings/cu). Note the diameter of the sampler in Comments column.

Sample Length Attempted and Recovered: The length of sample attempted and the length of sample recovered reported in inches.

Blow Counts: The number of blow counts per specified length.

Depth: Indicate the depth (below ground surface) of sample collection and depth of any changes in the soil or rock type encountered.

Soil/Rock Description and Geologic Origin: List visual characteristics of soil/rock noted during boring along with any pertinent descriptive remarks. Each major soil unit and bedrock formation shall be described using both subsurface investigations and regional information. Indicate likely geologic origin and Munsell color of the material.
USCS: Indicate the Unified Soil Classification System classification of any unconsolidated units or rock type encountered during boring.

Graphic Log: Graphically illustrate soil/rock types encountered through the depth of boring and provide a key for the symbols used. Indicate the total depth of the boring on the log.

Well Diagram: Graphically show the well casing, well screen length(s), and the location of the top of the filter pack(s) if the boring is converted into a well.

PID/FID: Measurements performed on samples using a Photo-Ionization Detector or a Flame Ionization Detector. Indicate in the Comments column the type of detector and the method used.

Soil Properties:

Compressive Strength - Standard measurements in tons/ft. Indicate in the Comments column the type of test used.
Moisture Content - Laboratory measurements of percent moisture content.
Liquid Limit - Measurement in percent.
Plasticity Index - Measurement in percent.
P 200 - Measurement of percentage of soils smaller than the #200 sieve.

RQD/Comments: Where boring penetrates bedrock, indicate the Rock Quality Designation of the sample. Otherwise, place all comments or remarks in this column and the adjacent margin.

INSTRUCTIONS FOR GROUNDWATER MONITORING
WELL INFORMATION FORM 4400-89

This form, when completed provides a record of information for each well or sampling point that is part of a facility's groundwater monitoring program. It provides the facility or consultant with a means of presenting in a consistent format the well data which the department requires during a site review process. It should be updated as new wells are added to the monitoring program.

Each element of the form is described below. Complete the form with the necessary information, using the description of the elements as a guide.

Facility Name: The name of the site or landfill.

Facility ID Number: Fill in the nine digit Facility ID (FID) assigned to the site.

License/Permit/Monitoring Number: The number assigned by the Department to the facility. If unknown, leave blank.

Date: The date on which the form is filled out (mm/dd/yyyy).

Completed By: The name and firm of person completing the form.

WI Unique Well No: The Wisconsin Unique Well Number assigned to the well. These numbers are available from the Department and are to be assigned to all newly drilled wells.

Well Name: The common well name given to the well by the facility or consultant; e.g. MW-21 OW-5.

DNR Well ID Number: The 3 digit number assigned to the well by the Department, for use by the Department.

Well Location: The location of the well, measured in feet, in relation to a grid system origin established for the site or state plane coordinate system.

Dir: The location direction for the well relative to the grid origin. If state plane coordinates are used these should be N and E.

Date Established: The installation date of the well.

Well Casing Diam.: The inside diameter of the pipe used in the well construction, in inches.

Well Casing Type: The type of pipe used: plastic (P), steel (S), or other (0).

Elevations:

Top of Well Casing: The elevation, of the top of the well casing (not top of protective pipe), in feet.

Ground Surface: The elevation, in feet, of the ground surface adjacent to the well.

Reference: Are elevations referenced to Mean Sea Level (MSL) or to a particular site datum established for the facility or site. Check one or the other.

Depths:

Screen Top: The depth, in feet, to the well screen top (subtract the screen length from the

well depth).

Initial Groundwater: The depth, in feet, to the water level in the well before well development.

Well Depth: The total depth of the well from the top of well casing, measured in feet.

Screen Length: The length of the screen measured in feet.

Well Type: Record the type of well or sampling point code (number/initials) from the following list:

11/mw	Water table observation well (monitoring well screen intersecting the water table) (non Subtitle D well)
12/pz	Piezometer (monitoring well with screen sealed below the water table) (non Subtitle D well)
13/pw	Private well - potable water supply
14/ly	Lysimeter
16/rp	Resistivity probe
17/gc	Gradient control
18/at	Aquifer test well
22/sw	Surface water
23/lc	Leachate collection system
24/lh	Leachate head well
25/lg	Leachate and Gas combo
26/ew	Groundwater extraction well
27/he	Horizontal groundwater extraction well
28/hw	Horizontal monitoring well
29/ha	Horizontal vapor extraction well
31/us	Upstream
33/ds	Downstream
36/sg	Staff gage
51/gp	Gas probe
53/ge	Gas extraction well
55/gc	Gas condensate
57/sv	Soil venting wells (includes both soil vapor extraction and bioventing, includes both extraction and unsaturated zone gas phase injection wells installed in soil or fill, but not refuse
58/gm	Gas sample monitoring point
61/ij	Injection well (injection of liquids not gases)
62/as	In situ air sparging well (injection well to inject gases into the aquifer
63/uv	Unterdruck Verdampfer Brunnen (UVB) wells (sparging wells where the gases remain in the well and are not injected into the aquifer)
64/le	Groundwater and light non-aqueous phase liquid (LNAPL) extraction wells
65/de	Groundwater and dense non-aqueous phase liquid (DNAPL) extraction wells
66/ve	Vacuum enhanced groundwater extraction wells
67/vi	Vacuum enhanced groundwater and LNAPL extraction wells
68/vd	Vacuum enhanced groundwater and DNAPL extraction wells
71/dw	Subtitle D water table observation well (see 11/mw)
72/dp	Subtitle D piezometer (see 12/pz)
80/mc	Municipal water supply well: cities, villages, and sanitary districts
81/oc	Community-other-than-municipal water supply well: mobile home parks, apartments, subdivisions, and condominium complexes
82/nn	Noncommunity-Nontransient water supply well (schools, day care centers, and industries) A Noncommunity water system that regularly serves at least 25 of the same persons over 6 months per year
83/tn	Noncommunity-Transient water supply well (motels, restaurants, parks, taverns, churches, and campgrounds) A Noncommunity water system that serves at least 25

people at least 60 days of the year
99/ot Other

Well Status: The status of the well using the following codes:

A - Actively monitored well
I - Inactive well (existing well not currently being monitored)
P - Permanently abandoned well
N - Potable well not currently used for consumption but actively monitored

Enf. Stds.: Check this box only if enforcement standards apply at this well. Enforcement standards apply at any well beyond the Design Management Zone or the property boundary of the facility or at a water supply well. For spills, enforcement standards apply at every point at which groundwater is monitored. (For more information, see s. NR 140.22, Wis. Adm. Code.)

Gradient: The location of the well in the groundwater flow system relative to the disposal site, spill, etc. Use one of the four letters designated below:

U = up gradient D = down gradient
S = side gradient N = not known

Distance to Waste: Distance Well Is From Waste/Source Boundary. Enter distance in feet from the monitoring well to the edge of a facility waste storage structure, e.g., from the edge of a wastewater lagoon or the approved waste fill boundary for a landfill. For a contaminant source which is not a facility, e.g., a spill, enter the distance the well is from the contaminant source.

Location Coordinates Are: State Plane Coordinate System, an established location system for Wisconsin or Local grid system, established for the site and submitted to the Department.

Grid Origin Location: Give the location in Latitude and Longitude in degrees, minutes and seconds using 1927 North American Datum or State Plane Coordinates. If State Plane Coordinates are used, circle the appropriate letter for south, central, or north zone.

The Grid Origin can be determined by surveying or by Global Positioning System (GPS) (with processing to be accurate within 1 foot and reported with precision to hundredths (0.01) of a second). An acceptable method for providing this information without surveying is to locate the Grid Origin on a USGS 7.5 minute quadrangle map. The Location of the Grid Origin can then be interpolated (estimated) using standard cartographic techniques. If the Grid Origin location is estimated, check the estimated box.

Remarks: Add any remarks to help clarify items listed above; e.g. MW-17 was abandoned on 1/24/90 and replaced by MW-17R; LHW-1 and LHW-2 are leachate head wells.

Groundwater Monitoring Inventory Form 3300-67

Instructions

1. All wells sampled by DNR employees must be inventoried and assigned a Wisconsin Unique Well ID in the Departments data system. Use this form to create a new inventory record or to change an existing record for a well. Use a separate form for each well.

2. Mandatory fields are indicated by shadowing and MUST be completed or your form will not be entered into the computer system. Fill in all applicable portions of the form as completely as possible.

3. If the well is being inventoried for the first time, check the "add" box in the upper right comer of the form. If there is a change to existing information, check the "change" box in the upper right comer and then fill in the Wisconsin Unique Well Number and ONLY THE INFORMATION THAT NEEDS TO BE CHANGED. If the form is filled out by DNR staff, check the DNR box. If the person completing this inventory form is associated with another agency; fill in the agency acronym letters.

4. For a private will, the primary contact should be the well owner or the resident occupant of the property served by the well, if the owner or occupant is known.

5. Check only ONE contact type code box for each contact name. Check the one that is the most relevant if more than one applies. If the well owner is the occupant, check "Owner" as the contact type. Check the facility or business box ONLY if there is not person to contact.

6. Wells should be located as precisely as possible. If the well is located by Public Land Survey, record the T, R, S, 1/4 and 1/4 1/4 section. If the well is located by latitude and longitude, record the location to the nearest second. If the well is located in a government lot, record the latitude and longitude as well as the government lot number.

7. Check only ONE box in the Well Use section. If a spring is being inventoried, check Spring under Construction Type in addition to the well use box.

8. County Codes and Names:

1 . Adams	19. Florence	37. Marathon	55. Rusk
2. Ashland	20. Fond Du Lac	38. Marinette	56. St. Croix
3. Barron	21. Forest	39. Marquette	57. Sauk
4. Bayfield	22. Grant	40. Menominee	58. Sawyer
5. Brown	23. Green	41. Mlwaukee	59. Shawano
6. Buffalo	24. Green Lake	42. Monroe	60. Sheboygan
7. Burnett	25. Iowa	43. Oconto	61. Taylor
8. Calumet	26. Iron	44. Oneida	62. Trempealeau
9. Chippewa	27. Jackson	45. Outagamie	63. Vernon
10. Clark	28 Jefferson	46. Ozaukee	64. Vilas
11. Columbia	29. Juneau	47. Pepin	65. Walworth
12. Crawford	30. Kenosha	48. Pierce	66. Washburn
13. Dane	31. Kewaunee	49. Polk	67. Washington
14. Dodge	32. La Crosse	50. Portage	68. Waukesha
15. Door	33. Lafayene	51. Price	69. Waupaca
16. Douglas	34. Langlade	52. Racine	70. Waushara
17. Dunn	35. Lincoln	53. Richland	71. Winnebago
18. Eau Claire	36. Manitowoc	54. Rock	72. Wood

9. Return this form to the DNR Bureau of Water Supply, Box 7921, Madison, WI 53707, unless you are part of a special sampling program and have been instructed to return the form elsewhere.